

REMARKS

Applicant respectfully requests reconsideration. Claims 11-15, 20-37, 39-42 and 45-52 were previously pending in this application. Independent claim 11 has been amended to include recitations of dependent claims 12 and 25. Independent claim 32 has been amended to include recitations of dependent claims 33 and 42. Claims 12, 25, 33 and 42 have been canceled. Claim 26 has been amended to change its dependency. No new matter has been added. Claims 11, 13-15, 20-24, 26-32, 34-37, 39-41 and 45-52 are now pending for examination, with claims 11 and 32 being independent claims.

Rejection of Claim 11

Claim 11 was rejected under 35 U.S.C. §102(b) as being anticipated by JP 9-64016 (where US 5,821,158 is used as an accurate translation) or 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,821,158 (Shishiguchi). Applicant respectfully traverses this rejection.

Independent claim 11 has been amended to include recitations of dependent claims 12 and 25 which do not stand rejected in view of Shishiguchi. Specifically, amended claim 11 recites forming a window in a layer on a substrate to expose the region of the substrate in which defects are formed; and, depositing the silicon layer on the region prior to annealing the substrate. Shishiguchi fails to teach or suggest a method including these steps. Thus, independent claim 11 is patentable over Shishiguchi.

Accordingly, Applicant respectfully requests withdrawal of the rejection on this ground.

Rejection of Claims 11, 13-15, 21-24, 27-30, 32-37, 39-41 and 45-52

Claims 11, 13-15, 21-24, 27-30, 32-37, 39-41 and 45-52 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,734,195 (Takizawa) in view of U.S. Patent No. 5,298,452 (Meyerson) or U.S. Patent No. 5,221,412 (Kagata). The Office Action asserts that it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the Takizawa process with either the Meyerson process or the Kagata process of forming silicon layers. Applicant respectfully traverses this rejection.

Independent claim 11 has been amended to include recitations of dependent claims 12 and 25 which do not stand rejected on this ground. Specifically, amended claim 11 recites

forming a window in a layer on a substrate to expose the region of the substrate in which defects are formed; and, depositing the silicon layer on the region prior to annealing the substrate. The combinations of Takizawa in view of either Meyerson or Kagata fail to teach or suggest a method including these steps. Moreover, Takizawa teaches an annealing step prior to depositing a silicon layer on a substrate as noted in the Office Action (page 4; lines 3-4) (see also, Takizawa, column 4, lines 39-40). Thus, Takizawa also teaches away from being modified to include the claimed step of depositing a silicon layer prior to annealing.

Independent claim 32 has been amended to include recitations of dependent claims 33 and 42 (which does not stand rejected on this ground) which are similar to those of dependent claims 12 and 25. Specifically, amended claim 32 recites forming a window in a layer on a single-crystal silicon substrate to expose the region of the substrate in which defects are formed; and, depositing a single-crystal silicon layer on the region prior to annealing the substrate. The combinations of Takizawa in view of either Meyerson or Kagata fail to teach or suggest a method including these steps. Moreover, Takizawa teaches an annealing step prior to depositing a silicon layer on a substrate as noted above. Thus, Takizawa also teaches away from being modified to include the claimed step of depositing a silicon layer prior to annealing.

Because the combinations of Takizawa in view of either Meyerson or Kagata fail to teach or suggest each limitation of claims 11 and 32 and, in fact, teach away from the claimed methods, a prima facie case of obviousness is not met for these claims. Thus, independent claims 11 and 32 are patentable over the asserted combinations. The remaining claims that stand rejected on this ground depend from either claim 11 or 32 and, therefore, are also patentable over the combinations for at least these reasons.

Accordingly, Applicant respectfully requests withdrawal of the rejection on this ground.

Rejection of Claims 11-15, 22-23, 27-28, 45, 47, 49 and 51

Claims 11-15, 22-23, 27-28, 45, 47, 49 and 51 were rejected as being unpatentable over U.S. Patent No. 5,024,723 (Goesele) in view of Meyerson or Kagata. The Office Action asserts that it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the Goesele process with either the Meyerson process or the Kagata process of forming silicon layers. Applicant respectfully traverses this rejection.

Independent claims 11 and 32 have been amended to respectively include the limitations of dependent claims 25 and 42 which do not stand rejected on this ground. Specifically, independent claims 11 and 32 have been amended to recite the step of forming a window in a layer on a substrate to expose the region of the substrate in which defects are formed. The combinations of Goesele in view of Meyerson or Kagata fail to teach or suggest a method including this step. Moreover, one of ordinary skill in the art would have been motivated to modify the teachings of these combinations of references to include this step. Therefore, a prima facie case of obviousness cannot be established and amended independent claims 11 and 32 are patentable over the asserted combination. The remaining claims that stand rejected on this ground depend from either claims 11 or 32 and, therefore, are also patentable over the asserted combinations.

Accordingly, Applicant respectfully requests withdrawal of the claim rejection on this ground.

Rejection of Claim 20

Claim 20 was rejected under 35 U.S.C. §103(a) as being unpatentable over Takizawa in view of Meyerson or Kagata and further in view of U.S. Patent No. 4,584,026 (Wu). Applicant respectfully traverses this rejection.

Claim 20 depends from independent claim 11 which, as amended, is patentable over the combinations of Takizawa in view of Meyerson or Kagata for reasons noted above. Wu fails to cure the deficiencies of these combination with respect to independent claim 11 and, thus, also claim 20. Therefore, for at least the reasons noted above, claim 20 is patentable over the combinations of Takizawa in view of Meyerson or Kagata and further in view of Wu.

Accordingly, Applicant respectfully requests withdrawal of the rejection on this ground.

Rejection of Claims 29-30, 32-37, 40 and 45-52

Claims 29-30, 32-37, 40 and 45-52 were rejected under 35 U.S.C. §103(a) as being unpatentable over Goesele in view of Meyerson or Kagata and further in view of U.S. Patent No. 5,561,076 (Yoshino). Applicant respectfully traverses this rejection.

Claims 29-30, 45, 47, 49 and 51 depend from claim 11 which, as amended, is patentable over the combinations of Goesele in view of Meyerson or Kagata for reasons noted above.

Yoshino fails to cure the deficiencies of these combinations with respect to independent claim 11 and, thus, also claims 29-30, 45, 47, 49 and 51. Therefore, for at least the reasons noted above, claims 29-30, 45, 47, 49 and 51 are also patentable over the combinations of Goesele in view of Meyerson or Kagata and further in view of Yoshino..

Independent claim 32 was amended to include the recitation of dependent claim 42 which does not stand rejected on this ground. Specifically, amended claim 32 recites forming a window in a layer on a single-crystal silicon substrate to expose the region of the substrate in which defects are formed. The combinations of Goesele in view of Meyerson or Kagata and further in view of Yoshino fails to teach a method that includes this step. Moreover, one of ordinary skill in the art would not have been motivated to modify the asserted combinations to include this step. Therefore, a prima facie case of obviousness cannot be established and amended independent claim 32 is patentable over the asserted combinations. Claims 33-37, 40, 46, 48, 50 and 52 depend from claim 32 and are patentable over the combinations for at least this reason.

Accordingly, Applicant respectfully requests withdrawal of the rejection on this ground.

Rejection of Claims 25-26 and 42

Claims 25-26 and 42 were rejected under 35 U.S.C. §103(a) as being unpatentable over Takizawa in view of Meyerson or Kagata and further in view of U.S. Patent No. 3,897,625 (Tihanyi) or JP 8-8262 (Takiyama). Applicant respectfully traverses this rejection.

Claim 25 has been canceled.

Claim 26 depends from independent claim 11 which is patentable over the combinations of Takizawa in view of Meyerson or Kagata for reasons noted above. Tihanyi or Takiyama fail to cure the deficiencies of these combinations with respect to independent claim 11 and, thus, also dependent claim 26. Therefore, claim 26 is patentable over the combinations of Takizawa in view of Meyerson or Kagata and further in view of Tihanyi or Takiyama.

Claim 42 depends from claim independent claim 32 which is patentable over the combinations of Takizawa in view of Meyerson or Kagata for reasons noted above. Tihanyi or Takiyama fail to cure the deficiencies of these combinations with respect to independent claim 32 and, thus, also dependent claim 42. Therefore, claim 42 is patentable over the combinations of Takizawa in view of Meyerson or Kagata and further in view of Tihanyi or Takiyama.

Accordingly, Applicant respectfully requests withdrawal of the rejection on this ground.

Rejection of Claim 31

Claim 31 was rejected under 35 U.S.C. §103(a) as being unpatentable over Takizawa or Goesele in view of Meyerson or Kagata and further in view of U.S. Patent No. 5,441,901 (Candelaria). Applicant respectfully traverses this rejection.

Claim 31 depends from independent claim 11 which is patentable over the combinations of Takizawa or Goesele in view of Meyerson or Kagata for reasons noted above. Candelaria fails to cure the deficiencies of these combinations with respect to independent claim 11 and, thus, also dependent claim 31. Therefore, claim 31 is patentable over the combinations of Takizawa in view of Meyerson or Kagata and further in view of Tihanyi or Takiyama.

Accordingly, Applicant respectfully requests withdrawal of the rejection on this ground.

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Art Unit: 1765

CONCLUSION

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,



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